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THE HOPI INDIANS

BY

RUTH DEETTE SIMPSON

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HOPI FARMER CARRYING HOME THE CORN
(Photo by C. C. Pierce)

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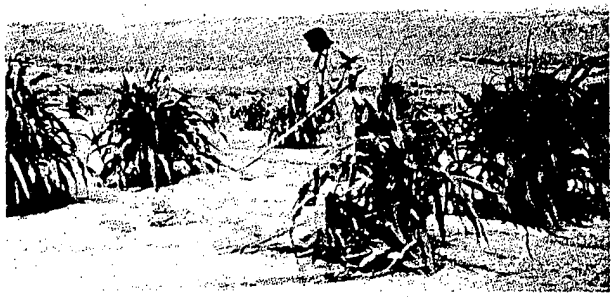
references that discuss in detail the culture configurations of the different villages.

Now we shall turn our attention to material culture traits. Here, especially since the Second World War, Caucasian influence is much more in evidence. Many material traits have been lost completely; many others drastically changed; many new traits added to those of native origin. Since the Hopi are fundamentally a sedentary people, we shall first consider their agriculture.

FOOD QUEST. If any one word can symbolize the economic basis of a culture, "maize" would represent the very foundation of Hopi existence. Domesticated in the Americas long before the time of Christ, it has been the governing factor in the lives of many native peoples in the Western Hemisphere. It has played an important role in the religions of many peoples, including the Pueblo Indians, the Aztecs, Mayans, and Peruvians. With the domestication of maize came a sedentary mode of life, permanent settlements, more time for the arts and crafts, greater assurance against starvation.

For uncounted centuries the Hopi have been sedentary farmers. Their legends, and the ruins of their villages scattered throughout Tusayan, tell how they migrated slowly through the area, building pueblos and tilling the land, then, years, decades, or generations later, moving again, taking with them corn and other seeds with which to begin life anew. Usually such a migration was enforced by nomadic Indians swooping down upon a village's farmlands just at harvest-time and carrying off the crops. Ultimately these periodic predatory



A HOPI CORNFIELD. (Charles Francis Saunders photo.)

raids would cause the Hopi to move on in search of a more protected home. Life has not been easy for the people of Tusayan, but they have been winning the struggle against both neighbors and climate.

It has been said that a Hopi's chief concerns are his prayers and his crops. Indeed it should be noted that the two are closely associated. Many religious observances are connected with fertility, rainfall, and a successful harvest. Hopi of earlier generations believed that seeds were signs to the gods, telling them what crops were wanted and where they should grow. Seldom were seeds regarded as potential plants.

Whether his home has been near the Little Colorado River, in one of the valleys of Tusayan, or on a mesatop, the Hopi has had his cornfields, his cotton patches, and his gardens of beans, squash, gourds, sunflowers, and other native plants. Today he still grows these and has added many plants and fruit trees acquired from the white man. In pre-contact days, farming methods were very simple. Holes were dug with a planting stick, or dibble, equipped with a flattened blade. Shovel-like wooden hoes were also used.

In the typical Hopi cornfield, land is cleared and weeded, fences rebuilt in February. Corn-planting begins in April and continues sporadically for two or three months. Holes are dug about five paces apart. Three to twelve kernels are planted in each hole to increase the chance of maturation. As the plants sprout, they protect one other, and, since the hole in which the kernels are placed is quite deep, the plants are well started when they reach the open air. Nevertheless, wind and blowing sand often rip the delicate leaves to shreds. Heaped-up sand, piles of stones or brush, and, today, tin-cans or other scrap are placed around the plants to serve as windbreaks.

In general it may be stated that sweet-corn is planted during the first phases of the May moon. Later, during the waning of the May moon and the period of the June moon all the other seeds are planted—for example, muskmelons at half-moon in June, corn and beans during the early June moon, squashes and watermelons as it wanes. The most distant fields are planted first.

The Hopi farmer usually plants several cornfields, the average size being about an acre. Because each clan controls more land than its members now need, each man may have several plots. He tries to select these so that each will be of different soil and dependent on a different water supply, and he will mark these fields with piles of stones to protect them from

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encroachment and to warn herders. Sand-dune acreage is always in demand because the dunes retain water and thus reduce the need for irrigation. Also, the dunes serve as natural windbreaks. Each man's main field is on the flood-plain of a wash—the farmer counting on summer floods to irrigate the crops. To facilitate this flooding, partial dams are built in the washes and ditches are dug, thus affording all parts of the fields partially controlled irrigation. However, as during all earlier generations, if floods come they may destroy some or most of the plants; if they do not come, most of the crops will certainly die. Therefore the Snake Dance and other rain-producing ceremonies are held during the summer.

The farmers also cultivate small cornfields below the mesas where they can be irrigated with water from springs. The harvests from these fields, though small, are more dependable, and with the emergency supply stored by each family in years of abundant crops, will carry a family through a short drought. The farmers have learned from long experience that springs occur where the tops of impervious strata are exposed, because underground water, which may have been carried for miles along an impervious stratum, is there led to the surface. Farmers also know that, where such a stratum extends into the valley at shallow depth, it must be covered by only a thin layer of sand which will retain water that elsewhere would sink uselessly and be dissipated at great depth.

Spring runoff is often dammed, especially around First Mesa, and the controlled drainage diverted into small irrigation channels.

Hopi corn is of a pure ancient strain. It has twelve rows of kernels that may be white, yellow, carmine, blue, black, or variegated in color. The kernels are even, are not indented.

Sweet-corn is harvested and baked in the field, usually by family or clan groups. Earthen ovens are erected and rituals are observed during the baking, an operation that may last for several days. Harvested in September, the baked sweet-corn is stored. It may later be boiled or ground into meal.

There have been disputes over the rights of farmers from the different Hopi villages to land in the washes between the mesas. As a rule, however, it is accepted that First Mesa farmers use the land on both sides of the mesa, with the Tano of Hano pueblo confined to lands upstream. Second Mesa farmers work the adjacent lowlands and Polacca Wash. The boundary between Second and Third Mesa lands has been set on the Second Mesa side of Mañyaóvi Peak in Oraibi Wash.

Most of the Hopi gardens are planted near springs and are irrigated by hand therefrom. Occasionally garden crops are raised in the cornfields, but the proportion is not large when compared with that grown in the regular gardens. Some corn and garden crops are grown in small patches on the mesatops. Whereas men and boys tend the valley corn- and cotton-fields, women and girls tend the gardens, and hand-irrigation is their task. As in prehistoric times, wild seeds are gathered and planted in the gardens and often grow very well. Some are used as food, some are employed in other aspects of Hopi life. Saltbrush, mint, wild potatoes, ironwood, cottonwood, yucca, juniper, cattail, etc., have thus assumed as least minor roles in Hopi economy. Many white-men's crops have been added to those which prehistoric Hopi grew in their rock-walled gardens. Among those which Spaniards, Mormons, the United States Government traders have introduced are onions, chile peppers, watermelons, tomatoes, wheat, beets, lettuce, peanuts, coxcomb, peas, sorghum, radishes, cabbage, cauliflower, artichokes, fennel, carrots, cucumbers, coriander, turnips and grapes.

One of the most important additions to the Hopi diet since the white man came, is fruit. Currants, prickly-pears, and other berries and cactus fruits were the only local native fruits. The first Spaniards introduced peaches. Apples, apricots, cherries, and pears are planted today in sheltered coves on the mesatops and in seepage areas around the bases of the mesas. More than 800 acres are now in fruit and almond orchards. These are tended by the men.

Stephen[1] gives as an average planting for the three mesas: 3600 acres in corn, 2000 acres in other edible plants, 1000 acres in orchards. From the 3600 acres of corn, he estimated a yield of 2,500,000 pounds, of which 1,500,000 pounds would be consumed, while the remainder would be sold to traders, traded to the Navaho, used in general barter, and stored for future emergencies.

Harvesting normally begins with sweet-corn. The main crops are brought in during September, beans being the last gathered. In olden days, before there were burros and wagons, harvested crops were carried to the pueblos by men, women, and children. The most active people went to the farthest fields, brought the corn part way, and gave it to others who carried it to the homes of the growers. There, the women

[1]Stephen, Alexander M., "Hopi Journal," part 2; *Columbia University Contributions to Anthropology*, vol. 2, pp. 954-955. New York, 1936.

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would spread it on the roof-tops. Since the harvest was and is a community undertaking, feasts are customary at the end of each harvest day. Relatives and friends still work together, but the large-scale community aspect of the harvest has been lost.

As in the past, wild plants are gathered and used for food. These include yucca fruits, spring greens, nuts, seeds, cactus fruits, etc. Sumac and mistletoe berries and Thelesperma are used in beverages. Thus it will be seen that, while the Hopi are predominantly farmers, they are gatherers as well. Plants and plant-parts not considered from a nutritional point of view are included in native Hopi ethnobotany because they are used in medicines, religious observances, arts and crafts, or in some other capacity.[1]

The Hopi classify their foodstuffs in several different ways. For example: Edible or not; edible by some people, not by others; staple or rare; garden or field; flavors (these are non-staples). People learn to like staple foods and often make themselves learn to dislike those that are rare.

Native methods of cooking would include stewing, boiling, roasting, grilling, baking. Meat may be stewed, grilled, roasted, or boiled. Roasting is accomplished in hot ashes. Much meat is dried, then later shredded by pounding; this is often eaten raw.

No discussion of native Hopi food habits could be ended without noting the fact that long excursions are made for certain items. For example, in spite of the proximity of the "Spirit Land" to their destination the Hopi through the centuries have made the long trip to salt deposits near the junction of the Colorado and Little Colorado rivers. Treks have also been made to the San Francisco Mountains for pine-nuts (and wood), and game. Berry patches scattered over many miles of open country are still visited regularly by Hopi women.

Today, as during past centuries, corn remains the Hopi staff of life; but very distinct changes have occurred in the Hopi food economy since the white man came. It has been noted that the early Spaniards brought many new foods; they also brought sheep, cattle, horses, and burros. These animals eased the problems facing the family providers. Sheep and cattle afforded meat, while horses and burros served as greatly needed beasts of burden. Furthermore, sheep's wool has replaced cotton to such an extent that the production of this prehistoric staple has almost ceased.

[1]For complete lists of useful plants, see Alfred F. Whiting's Ethnobotany of the Hopi, *Bulletin 15, Museum of Northern Arizona*, Flagstaff, 1939.

Hopi herds and flocks are owned and cared for by the men. Since few individuals have time to tend their flocks continually, this task is handled on a community basis. Herds are grouped together and the men take turns watching them. Boys also aid in this work. When lambs are born, or when shearing time arrives, all the owners work with the herds. Today it is sometimes necessary to take the flocks far from the

A HOPI FLOCK OF SHEEP AND GOATS. (Charles Francis Saunders photo.)

mesas; therefore some herders and their charges remain in the fields for considerable periods of time. When it is possible to do so, however, the herders and sheep return to the mesa-tops each evening, the flocks being bedded down in stone-fenced corrals just outside the village or just below the mesa rim. Those stockowners who are forced to take their charges far from home occasionally hire Navaho men or boys to tend the animals.

Through recent government action, standards of animal husbandry have been raised, the range water-supply improved and stock coöperatives formed. Unfortunately the condition of the range-land presents a serious problem: overgrazing has led to depletion of the food-supply and to erosion of the soil. The Government has ordered a sharp reduction in the legal size of individual herds and flocks, and this has brought hardship to many a Hopi family. The government is trying to

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help these people by obtaining loans and off-the-reservation grazing privileges for them. One partial solution of this problem is the use by the Hopi of lands on the Colorado River Reservation. Several Hopi families have gone there, but it is too soon to know if the experiment can be happily worked out. It, of course, means the transplanting of families and the abandonment of Hopi ways and environment—indeed of much that the Hopi hold sacred. In the minds of many people it is doubtful that this experiment will succeed; it would seem more in keeping with Hopi character that they will prefer a rigorous way of life in their homeland to easier living amid foreign surroundings.

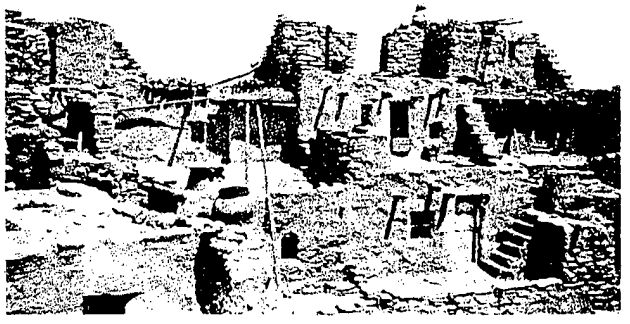
Twentieth century Caucasian agricultural influences are predominantly technical: school training in new methods, use of machinery and steel tools; use of horses, burros, wagons, trucks. Now, tools, seeds, machinery may be purchased at the trading post. Food (canned goods, flour, sugar, meat, potatoes, etc.) may be obtained in trade for corn and other crops, blankets, silver jewelry and other products of the arts and crafts. Indeed the traders on the reservation and in town who will advance credit and supply food in time of emergency are an important and welcome aspect of the modern economy. Most of the traders working on the reservation are Hopi. Their trading posts are small, but important in the daily lives of the people. The larger posts in the cities are frequented by Hopi as well as by Navaho who ride the daily bus from Tuba City to Flagstaff.

"Store-bought" meat and Hopi-owned domestic animals have almost replaced wild game on the menu; but only a few decades ago it was the man's responsibility to keep his family supplied with meat. Before over-grazing became general, small animals, antelope and even deer grazed near the Hopi mesas. The deer was truly the Hopi "culture-animal;" it supplied meat, hides, sinew, bone, antlers, and hoofs. Communal animal hunts were common, and had religious and social, as well as economic, significance. Rituals were observed to help the hunters and appease the animals they pursued and killed. Game could be taken with nets, snared, trapped, stoned, flooded out of hiding, run down and killed with arrows, lances, clubs, rabbit-sticks, etc. Animals hunted included deer, wolves, mountain sheep, mountain lions, rabbits, foxes, coyotes, turtles, and other small game. Eagles were trapped by hand and returned to the villages alive. There they would be fattened and killed for their feathers. Hawks and other birds were also taken for feathers as well as meat. Turkeys were

kept at the village; they too were wanted for their feathers. Incidentally, turkeys and a short-legged ancient species of dog called the *pobo* were the only domesticated animals kept by prehistoric Hopi.

ARCHITECTURE. The impact of Caucasian influence on Hopi life is graphically illustrated by a study of architectural change from prehistoric to modern times.

In the past, Hopi homes in the pueblos were built contiguously to form clan units, and these units were arranged in orderly fashion and in preconceived formation around courts wherein important public religious ceremonies were performed while the populace sat on the roofs of the surrounding terraced buildings.



VIEW IN ORAIBI IN ITS EARLIER DAYS, SHOWING POTTERY VESSELS USED FOR CHIMNEY-TOPS. (Photo. by Charles Francis Saunders)

It should be remembered that the Hopi have not always lived in mesatop pueblos. The clan movements and migrations that, after centuries, resulted in mesatop settlement have been noted (pages 12, 50-51). When the Hopi lived in the valleys, many small villages were occupied by single clans. As these moved together, forming larger pueblos, the clans still built as individual clan units, and the custom was preserved when the Hopi moved to defensive sites on the mesas.

Hopi builders, at least during the mesatop occupational period of historic times, have deviated from the general pueblo pattern in several ways. Since they have been building on the mesas, their restricting configurations have resulted in less orderly construction, and the rock surface has forced the pre-